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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,352	12/29/2000	Arthur Ray Alexander	9216	8424

26890 7590 03/12/2003

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EXAMINER
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PATEL, ISHWARBHAI B

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/752,352

### Applicant(s)

ALEXANDER ET AL.

### Examiner

Ishwar (I. B.) Patel

### Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-8,17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8,17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. A new non-final rejection follows.

### ***Drawings***

2. The drawings are objected to because the figures are improperly cross hatched. All of the parts shown in section, and only those parts, must be cross hatched. The cross hatching patterns should be selected from those shown on page 600-114/115 of the MPEP based on the material of the part. See also 37 CFR 1.84(h)(3) and MPEP 608.02.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3,5-8,17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al., US Patent No. 6,198,362, hereafter, Harada, in view of Klaser, US Patent No. 4,870,746 and Archambeault, US Patent No. 6,418,031.

Regarding claim 1 and 17 Harada discloses a printed circuit board that includes:

a power layer for use in providing electrical power to circuit components (power supply layer 23, see figure 7-8, column 8, line 24-40);

a ground layer for use in carrying electrical current away from the circuit components (ground layer 22, see figure 7-8, column 8, line 24-40); but

fails to explicitly disclose a loss element residing in an internal layer of the circuit board and connected electrically between the power layer and ground layer. The loss element / resistor of Harada is on the top of the circuit board.

However, such loss element inside the circuit board, as shown by Archambeault and Klaser, are known in the art and may provide additional space available on the top surface of the board to be used for mounting other components.

Archambeault discloses series resister and capacitor, though exact structural detail is not disclosed, connecting the power and ground planes, Archambeault – figure 3-4, line 3-63 and Klaser discloses a resistor formed on the internal conductive layer, Klaser, column 4, line 30-60.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the assembly of Harada with the loss element residing in an internal layer of the circuit board and connected electrically between the power layer and ground layer, as taught by Archambeault and Harada, in order to have the desired functionality of the system in addition to have additional space on the surface of the circuit board which can be used for mounting other components.

Regarding claim 20, the modified assembly of Harada discloses all the features of the claimed invention as applied to claims 1 and 17 above, including the resistive element formed into the power plane as disclosed by Klaser as any of the conductive layer of Klaser can be a power plane.

Regarding claim 2, the modified assembly of Harada further discloses a capacitive element connected in series with the loss element as applied to claim 1 above.

Regarding claim 3, the modified assembly of Harada further discloses the loss element and the capacitive element reside in two different layer of the circuit board as applied to claim 1 above.

Regarding claim 5, the modified assembly of Harada further discloses the loss element resides within an internal power or ground layer as applied to claim 1 above

and as shown by Klaser. The internal layer of Klaser may be either a ground or power layer, see Klaser figure 1.

Regarding claim 6, the modified assembly of Harada further discloses the loss element includes a resistor as applied to claim 1, resistor of Klaser.

Regarding claim 7, though the modified assembly of Harada does not disclose the resistor has a resistance value of the order of 1-10 ohm.

However, it is known in the art as further shown by Klaser, Klaser – column 4, line 61-67, to have the desired value of the resistor by blending the resistive paste with different resistivities.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the modified assembly of Harada with the resistor having a resistance value of the order of 1-10 ohm, as disclosed by Klaser, in order to have the desired functionality.

Regarding claim 8 and 19, the modified assembly of Harada further discloses the resistor is formed from a polymer thick film material, Klaser, column 4, line 30-60.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 17, 20 and the dependent claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (703) 305 2617. The examiner can normally be reached on M-F (8:30 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (703) 305 9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3431 for regular communications and (703) 305 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

ibp  
March 7, 2003

  
KAMAND CUNEO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800